

**Listing of Claims.**

Please amend the claims as follows. This listing of claims replaces all prior listing of claims in the present application.

1-19. (Canceled).

20. (Currently amended) A method for assessing the amount of a nucleic acid analyte in a sample ~~Use in a diagnostic hybridization assay of a probe for lowering the effect of sequence variations in a nucleic acid analyte, which assay comprises the steps of comprising:~~

contacting a set of primers and a sample containing the nucleic acid analyte to amplify the analyte; and

detecting the amplified analyte or its complement by means of ~~[[the]]~~ a probe, characterized in that the probe comprises:

one or more nucleotides and/or nucleotide analogues, selected from 2' -O-methyl nucleotides or LNA nucleotides, that have an affinity increasing modification ~~and the diagnostic assay is for assessing the amount of analyte present in the sample;~~ and

one or more unmodified nucleotides;

thereby assessing the amount of nucleic acid analyte in the sample.

21. (Currently amended) A method for assessing the presence of a nucleic acid analyte in a sample ~~Use in a diagnostic hybridization assay of a probe for lowering the effect of sequence variations in a nucleic acid analyte, which assay comprises the steps of comprising:~~

contacting a set of primers and a sample containing the nucleic acid analyte to amplify the analyte; and

detecting the amplified analyte or its complement by means of ~~[[the]]~~ a probe, characterized in that the probe comprises:

one or more nucleotides and/or nucleotide analogues, selected from 2' -O-methyl nucleotides or LNA nucleotides, that have an affinity increasing modification, ~~[[i.e.]]~~ wherein at a

constant temperature of hybridization, the melting temperature of the probe with any possible analyte's polymorphism is increased compared to the melting temperature of an unmodified probe with any analyte's polymorphism ~~and the diagnostic assay is for assessing the presence of the analyte in the sample; and~~

one or more unmodified nucleotides;

thereby assessing the presence of nucleic acid analyte in the sample.

22. (Currently amended) The method of Use as claimed in claim 20, wherein the probe is a molecular beacon.

23. (Currently amended) The method of Use as claimed in claim 21, wherein the probe is a molecular beacon.

24. (Currently amended) A method for assessing the presence of a nucleic acid analyte in a sample using a molecular beacon probe that lowers Use in a diagnostic hybridization assay of a molecular beacon probe for lowering the possible opening of the stem of the molecular beacon beacons by way of that results from at least one contaminant present in the amplification enzyme mixture, ~~which assay comprises the steps of;~~ the method comprising

contacting a set of primers and a sample containing the nucleic acid analyte to amplify the analyte; and

detecting the amplified analyte or its complement by means of the probe, characterized in that the probe's stem comprises:

one or more nucleotides and/or nucleotide analogues that have an affinity increasing modification, optionally especially 2' -O-methyl nucleotides[[,]]; and

one or more unmodified nucleotides;

thereby assessing the presence of nucleic acid analyte in the sample.

25. (Currently amended) A method for assessing the presence of a nucleic acid

analyte in a sample using ~~Use in a diagnostic hybridization assay of~~ a molecular beacon probe for lowering:

the effect of sequence variations in a nucleic acid analyte, and/or

the possible opening of the stem-loop structure of the molecular ~~beacon~~ beacons by way of that results from at least one contaminant present in the amplification enzymes mixture, the method comprising ~~which assay comprises the steps of~~

contacting a set of primers and a sample containing the nucleic acid analyte to amplify the analyte; and

detecting the amplified analyte or its complement by means of the probe, characterized in that the probe's loop comprises:

one or more nucleotides and/or nucleotide analogues that have an affinity increasing modification, and

one or more unmodified nucleotides

and/or the probe's stem comprises:

one or more nucleotides and/or nucleotide analogues that have an affinity increasing modification, ~~optionally~~ especially 2' -O-methyl nucleotides, and

one or more unmodified nucleotides;

thereby assessing the presence of nucleic acid analyte in the sample.

26. (Currently amended) The method of ~~Use as claimed in~~ claim 20 wherein the diagnostic assay is a homogenous assay.

27. (Currently amended) The method of ~~Use as claimed in~~ claim 21 wherein the diagnostic assay is a homogenous assay.

28. (Currently amended) The method of ~~Use as claimed in~~ claim 24 wherein the diagnostic assay is a homogenous assay.

29. (Currently amended)     The method of ~~Use as claimed in~~ claim 25 wherein the diagnostic assay is a homogenous assay.

30. (Currently amended)     The method of ~~Use as claimed in~~ claim 20 wherein the diagnostic assay is a heterogeneous assay.

31. (Currently amended)     The method of ~~Use as claimed in~~ claim 21 wherein the diagnostic assay is a heterogeneous assay.

32. (Currently amended)     The method of ~~Use as claimed in~~ claim 24 wherein the diagnostic assay is a heterogeneous assay.

33. (Currently amended)     The method of ~~Use as claimed in~~ claim 25 wherein the diagnostic assay is a heterogeneous assay.

34. (Currently amended)     The method of ~~Use as claimed in~~ claim 20, wherein the nucleotides or nucleotide analogues having an affinity increasing modification are selected from the group consisting of 2' -O-derivatized nucleotides, locked nucleic acids and peptide nucleic acids.

35. (Currently amended)     The method of ~~Use as claimed in~~ claim 21, wherein the nucleotides or nucleotide analogues having an affinity increasing modification are selected from the group consisting of 2' -O-derivatized nucleotides, locked nucleic acids and peptide nucleic acids.

36. (Currently amended)     The method of ~~Use as claimed in~~ claim 24, wherein the nucleotides or nucleotide analogues having an affinity increasing modification are selected from the group consisting of 2' -O-derivatized nucleotides, locked nucleic acids and peptide nucleic

acids.

37. (Currently amended) The method of Use as claimed in claim 25, wherein the nucleotides or nucleotide analogues having an affinity increasing modification are selected from the group consisting of 2' -O-derivatized nucleotides, locked nucleic acids and peptide nucleic acids.

38. (Currently amended) The method of Use as claimed in claim 34, wherein the 2' -O-derivatized nucleotide is a 2' -O-methyl-nucleotide.

39. (Currently amended) A molecular Molecular beacon probe for use in a diagnostic hybridization assay, said probe comprising one or more unmodified nucleotides and one or more nucleotides and/or nucleotide analogues, selected from 2' -O-methyl nucleotides, that have an affinity increasing modification, [[i.e.]] wherein at a constant temperature of hybridization, the melting temperature of the probe with any possible analyte's polymorphism a target sequence is increased compared to the melting temperature of an unmodified probe with the same target sequence.

40. (Currently amended) A molecular Molecular beacon probe for use in a diagnostic hybridization assay, said probe allowing the lowering of the possible opening of the stem-loop structure of the molecular beacon beacons by way of that results from at least one contaminant present in the amplification enzyme mixture, which assay comprises the steps of contacting a set of primers and a sample containing the nucleic acid analyte to amplify the analyte and detecting the amplified analyte or its complement by means of the probe,  
characterized in that the probe's stem comprises:

one or more nucleotides or nucleotide analogues having an affinity increasing modification are selected from the group consisting of a 2' -O-derivatized nucleotide, a locked nucleic acid, and a peptide nucleic acid-2' -methyl nucleotides, and

one or more unmodified nucleotides.

41. (Currently amended) A molecular ~~Molecular~~ beacon probe for use in a diagnostic hybridization assay, said probe allowing the lowering of:

the effect of sequence variations in a nucleic acid analyte, and/or

the possible opening of the stem-loop structure of the molecular beacon ~~beacons~~ by way of enzymes, characterized in that the probe's loop comprises:

one or more nucleotides and/or nucleotide analogues that have an affinity increasing modification, and

one or more unmodified nucleotides

and/or the probe's stem comprises:

one or more 2' -O-methyl nucleotides, and

one or more unmodified nucleotides.

42. (Canceled).

43. (Currently amended) The Probe ~~or molecular~~ beacon probe as claimed in claim 41, wherein the nucleotides or nucleotide analogues having an affinity increasing modification are selected from the group consisting of 2' -O-derivatized nucleotides, locked nucleic acids, and peptide nucleic acids.

44. (Currently amended) The Probe ~~or molecular~~ beacon probe as claimed in claim 42, wherein the 2' -O-derivatized nucleotide is a 2' -O-methyl-nucleotide.

45. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 40, wherein each base pair constituting the stem contains no more than one 2' -O-methyl nucleotide.

46. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 41, wherein each base pair constituting the stem contains no more than one 2' -O-methyl nucleotide.

47. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 40, wherein at least one base pair constituting the stem contains no nucleotide or nucleotide analogue having an affinity increasing modification.

48. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 41, wherein at least one base pair constituting the stem contains no nucleotide or nucleotide analogue having an affinity increasing modification.

49. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 40, wherein one base pair constituting the stem contains no nucleotide or nucleotide analogue having an affinity increasing modification.

50. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 41, wherein one base pair constituting the stem contains no nucleotide or nucleotide analogue having an affinity increasing modification.